

Applic. No. 10/650,051  
Amdt. dated April 27, 2006  
Reply to Office action of December 5, 2005

Claim Amendments

This listing of the claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (currently amended): An apparatus for detecting a material of a surface of a flat object on a stack of flat objects, the flat objects being printing plates, separated by interlayers in the stack, the apparatus comprising:

a sensor apparatus containing a sensor carrier, sensor electronics, and sensor electrodes resting on the surface of the flat object and conducting a measuring current through the surface of the flat object, said sensor carrier supporting said sensor electrodes, and said sensor electronics connected to said sensor electrodes; and

said sensor electronics having an evaluation device for distinguishing between the printing plates and the interlayers.

Claim 2 (original): The apparatus according to claim 1, wherein an electrical resistance in the surface of the flat object is measured with the measuring current.

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Claim 3 (currently amended): The apparatus according to claim 1, wherein said sensor electronics contain a frequency generator connected to said sensor electrodes, a rectifier connected to said sensor electrodes, a measurement amplifier connected to said rectifier, comparators connected to said measurement amplifier, and ~~[[an]]~~ said evaluation unit connected to said comparators.

Claim 4 (currently amended): The apparatus according to claim 1, wherein said sensor electronics contain a controllable-frequency frequency generator connected to said sensor electrodes, a rectifier connected to said sensor electrodes, a measurement amplifier connected to said rectifier, an analog-digital converter connected to said measurement amplifier, and said evaluation unit is a control and evaluation unit connected to said analog-digital converter.

Claim 5 (original): The apparatus according to claim 3, wherein said sensor electronics has a short-circuit detector connected to said sensor electrodes.

Claim 6 (currently amended): The apparatus according to claim 1, wherein said sensor apparatus detects a surface type of the

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surface of the flat object as being one of paper, an exposure layer of [[a]] the printing plate, metal and 'no object'.

Claim 7 (original): The apparatus according to claim 1, further comprising a loading device for printing plates, and said sensor apparatus is integrated into said loading device.

Claim 8 (original): The apparatus according to claim 7, further comprising a lifting device having suction elements for gripping the printing plates, said sensor apparatus being integrated into said lifting device.

Claim 9 (original): The apparatus according to claim 4, wherein said sensor electronics has a short-circuit detector connected to said sensor electrodes.

Claims 10 and 11 (cancelled).

Claim 12 (currently amended): A method for detecting a material of a surface of a flat object on a stack of flat objects, the flat object being printing plates, which are separated by interlayers, the method which comprises the steps of:

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using sensor electrodes resting on the surface of the flat object and connected to sensor electronics for conducting a measuring current through the surface of the flat object; and

distinguishing between the printing plates and the interlayers before providing the printing plates for further processing.

Claim 13 (original): The method according to claim 12, which further comprises generating the measuring current with a frequency generator, and the frequency generator applying a high-frequency voltage to the sensor electrodes.

Claim 14 (original): The method according to claim 12, which further comprises using the measuring current for measuring an electrical resistance of the surface of the flat object.

Claim 15 (original): The method according to claim 12, which further comprises:

converting the measuring current into a measuring voltage; and

recognizing the material forming the surface from a voltage range in which the measuring voltage lies.

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Claim 16 (currently amended): The method according to claim 12, which further comprises:

varying a frequency of the measuring current using a controllable frequency generator; ~~and~~

carrying out a plurality of measurements at different frequencies; and

distinguishing a surface material by depending on the frequency of the voltage which is applied to the sensor electrodes.

Claim 17 (original): The method according to claim 16, which further comprises evaluating measuring voltages determined from the plurality of measurements to detect the material of the surface.

Claim 18 (original): The method according to claim 12, which further comprises determining the surface to be a surface type selected from the group consisting of paper, an exposure layer of a printing plate, metal, and 'no object'.

Claim 19-20 (cancelled).